Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (previously presented) A line driver for driving signals via at least one subscriber line, comprising:

an input for injecting an input signal and an output at which a signal which is to be driven via the subscriber line is tapped off,

a digital amplifier which produces a digital signal on the output side from one of the input signal or a signal derived from the input signal,

an analog amplifier, which produces an analog signal on the output side from one of the input signal or a signal derived from the input signal,

wherein the outputs of the amplifiers are coupled such that the signal to be driven results from superimposition of the analog signal and the digital signal, and

wherein the gain of the analog amplifier is matched to the gain of the digital amplifier such that at least one of the scatter or overshoot on the digital signal is at least reduced after the superimposition.

2. (previously presented) The line driver of Claim 1, and further comprising a feedback path, via which the signal which results from the superimposition of the analog and digital signals is fed back with negative feedback to the input of the analog amplifier.

3. (previously presented) The line driver of Claim 2, wherein the analog amplifier is arranged in an analog path, and the digital amplifier is arranged in a digital path, with the two paths being arranged in parallel with one another.

4. (previously presented) The line driver of Claim 3, and further comprising a filter following the digital amplifier in the digital path and carrying out frequency smoothing as well as filtering of the digital signal.

5. (previously presented) The line driver of Claim 3, and further comprising a matching circuit connected upstream of the analog amplifier in the analog path and carrying out at least one of phase matching or amplitude matching of the input signal to the output signal.

6. (previously presented) The line driver of Claim 3, wherein the analog amplifier is followed by a resistance network, at whose output an analog current is tapped off, and wherein a potential which is tapped off from the resistance network is injected into the digital amplifier to produce on the output side a digital current which is superimposed on the analog current.

7. (previously presented) The line driver of Claim 6, wherein the resistance network has at least one measurement resistance via which the analog current is passed, and

has a voltage divider across which the potential which is injected into the digital amplifier is tapped off.

8. (previously presented) The line driver of Claim 7, wherein the resistance value of the measurement resistance is very much less than the resistance values of the voltage divider resistances.

9. (previously presented) The line driver of Claim 3, and further comprising at least one transformer provided at the output of the line driver.

10. (previously presented) The line driver of Claim 2, and further comprising a load which is in the form of a transformer provided at the output of the line driver.

11. (previously presented) The line driver of Claim 9, wherein the transformer is designed such that its bandwidth matches the bandwidth of the signal to be driven.

12. (previously presented) The line driver of Claim 9, wherein at least one transformer has a very high transformation ratio in the region of at least 1:4 between the primary and the secondary sides.

13. (previously presented) The line driver of Claim 11 and further comprising a further transformer arranged in the analog path following the analog amplifier.

14. (previously presented) The line driver of Claim 13, wherein the further transformer has a lower transformation ratio than the first.

15. (previously presented) The line driver of Claim 14, and further comprising a divider provided in the feedback path having a feedback factor by which the fed-back signal is divided.

16. (previously presented) The line driver of Claim 15, wherein the feedback factor (f) corresponds to the transformation ratio of the transformer which follows the digital amplifier.

17. (previously presented) The line driver of Claim 10, further comprising a further feedback device which feeds back the output signal with positive feedback to the input, with the elements of the control loop which results from this being designed such that the impedance of the line driver-is variable.

18. (previously presented) The line driver of Claim 17, wherein the variable impedance has a synthesis factor (m) which is proportional to the ratio of the load to an output resistance.

19. (previously presented) The line driver of Claim 3, and further comprising a control device controlling the amplifiers.

20. (previously presented) The line driver of Claim 3, wherein the analog amplifier is in the form of an inverting amplifier.

21. (previously presented) The line driver of Claim 19, wherein the digital amplifier has a comparator coupled to the input of the digital amplifier followed, as the output stage by a power inverter.

22. (previously presented) The line driver of Claim 3, wherein the digital amplifier has a PWM characteristic, such that its digital output signals are pulse-width modulated.

23. (previously presented) The line driver of Claim 3, wherein the line driver is in the form of an ADSL driver circuit.

24. (previously presented) The line driver of Claim 22, wherein circuit means are provided, by means of which the switching frequency is matched to the amplitude of the output signal.

25. (previously presented) The line driver of Claim 3, wherein the signals to be driven are speech signals or data signals.

26. (previously presented) The line driver of Claim 3, wherein the line driver is completely differential.

27. (previously presented) The line driver of Claim 9, wherein at least one transformer has a very high transformation ratio in the region of more than 1:6, between the primary and the secondary sides.

28. (previously presented) The line driver of Claim 13, wherein the further transformer has a transformation ratio of about 1:1.

29. (previously presented) A line driver for driving signals via a subscriber line, comprising:

an input for injecting an input signal;

an output at which a signal which is to be driven via the subscriber line is tapped off;

a digital path between the input and output including a digital amplifier which produces a pulse-width-modulated (PWM) signal on an output side of the digital path from a signal derived from the input signal;

an analog path between the input and output including an analog amplifier which produces an analog signal on an output side of the analog path from a signal derived from the input signal;

wherein the digital path and analog paths are arranged in parallel with one another and are coupled at their output sides such that the signal to be driven results from superimposition of the analog signal and the PWM signal; and

wherein the gain of the analog amplifier is matched to the gain of the digital amplifier such that at least one of the scatter or overshoot on the PWM signal is at least reduced after the superimposition.

30. (previously presented) The apparatus of claim 29 and further comprising a feedback path via which the signal which results from the superimposition of the analog and PWM signals is fed back with negative feedback to an input of the analog path.